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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/955,084	09/19/2001	Haeng-Won. Park	06192.0227.NPUS00	9780

7590 08/28/2003
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EXAMINER

PATEL, NITIN

ART UNIT PAPER NUMBER

2673

DATE MAILED: 08/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/955,084

Applicant(s)

PARK ET AL.

Examiner

Nitin Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 7 is/are rejected.
- 7) ☒ Claim(s) 3-6 and 8-13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1,2, 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moon et al., (U.S. Patent No. 2003/0030604) in view of Motomura et al., (U.S. Patent No. 6,111,559).

As per claims 1,7 Moon shows an LCD device (element 10 In Fig.1); a timing control circuit (element 48 in Fig.2) for generating a gate clock signal and a control signal (In Fig.2 control signal towards G1... and S1...); a gray scale voltage generating circuit for generating a plurality of gray scale voltages corresponding to data to be displayed in LCD panel response to gate clock signal (in fig.2 element 46 controls signals); a gate driving circuit (In Fig.2 element 44) for scanning the pixels of the LCD panel arrow at a time in order(In Fig.2 element G1..Gn) and source driving circuit (plurality of source signals (S1...S8) for generating LCD driving voltage corresponding to the data to be displayed in the LCD panel in response to the gray scale voltage (element 46 In Fig.2) and outputting voltages to the LCD panel every scanning.

Moon does not show a backlight for supplying light wherein the panel is toggled when sensing the data to control the brightness of the backlight according to sensing the results of the data.

Motomura shows a backlight for supplying light wherein the panel is toggled when sensing the data to control the brightness of the backlight according to sensing the results of the data (In fig.2 and In col.3 lines 44-50 setting the luminance of the backlight). It would have been obvious to one of ordinary skill in the art, at the time of the invention was made to allow the teaching of Motomura's setting the backlight with data sensed by the setting means into display system of Moon's because it would have allowed to lower the luminance of the backlight to suppress a reduction in the intensity of the LCD panel.

As per claim 2, Moon shows timing control circuit having a gate clock signal and control signals and a flicker reducing unit for reducing visually recognized flickers by detecting of data included in data of one frame to be displayed in the LCD panel and controlling brightness of the display (In col.2 section 37-40).

Allowable Subject Matter

3. Claims 3-6,8-13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art fails to teach or suggest a flicker-sensing portion for sensing in pixel unit whether or not the data is flickered by detecting whether or not the data is toggled; a first counter for counting the number of toggled data among data displayed in one line of the liquid crystal panel according to the flicker sensing portion; a first comparator for detecting whether or not the entire data in the line is toggled by comparing the results from the first counter with a first standard value; a second counter for counting number

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of the line where the entire data is toggled, according to the results detected by the first comparator and a second comparator for comparing the results from the second counter with a second standard value and generating the control signal to dim the backlight when results from the second counter is the same as or higher than a second standard value as claimed claim 3 and rest of the dependent claims depend on claims 3 limitations.

The prior art fails to teach or suggest detecting whether or not each of bits forming the data is toggled by receiving the bits delaying received bits for a given time and performing XOR operation to each of delayed and non delayed bits and counting the number of toggled bits using the results of the XOR operation and comparing the number of toggled bits with a first standard value as claimed in claim 8 and dependent on claim 8 limitations.

Conclusion

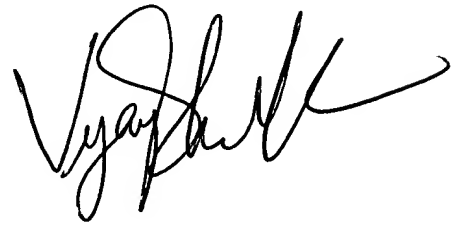
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nitin Patel whose telephone number is 703-308-7024. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin H Shalwala can be reached on 703-305-4938. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9618.

NP
August 25 2003.

A handwritten signature in black ink, appearing to read 'Vijay Shankar', with a stylized, flowing script.

VIJAY SHANKAR
PRIMARY EXAMINER